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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/721,916

11/24/2003

Virgil Cotoco Ararao

27-006

6546

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7590

08/30/2005

THE LAW OFFICES OF MIKIO ISHIMARU  
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EXAMINER

NGUYEN, THANH T

ART UNIT

PAPER NUMBER

2813

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/721,916

Applicant(s)

ARARAO ET AL.

Examiner

Thanh T. Nguyen

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/24/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election of group I, claims 1-10 in the reply filed on 6/21/05 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 11-20 are withdrawn from further consideration by the examiner, 37 C.F.R. 1.142(b) as being drawn to a non-elected invention.

### ***Information Disclosure Statement***

The information disclosure statement filed on 11/24/03 has been considered.

### ***Oath/Declaration***

Oath/Declaration filed on 11/24/03 has been considered.

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Hawthorne et al. (U.S. Patent No. 6,008,991).

Referring to figures 3-4, 9-11, Hawthorne et al. teaches a method for fabricating a semiconductor heat spreader, comprising:

providing a unitary metallic plate (see figures 9-10); and

forming the unitary metallic plate into:

a panel(68/114);

channel walls depending from the panel (68/114) to define a channel (44/110) between the channel walls and the panel for receiving a semiconductor therein (see figures 3-4, 9-10);

at least two feet (70, see figures 3-4, 9-10) extending from respective channel walls for attachment to a substrate (138); and

at least one external reversing bend (72a/72b/116/118/146/148, see figures 4, 9-10).

2. the feet are selected from an arched foot, a stand-off foot, a slotted stand-off foot, a toed foot, a stand-off toed foot, a flat foot, a slotted flat foot, a zigzag foot, a box foot, and a combination thereof (70, see figures 3-4, 9-10).

Art Unit: 2813

3. forming the feet to accommodate respective set volumes of adhesive therebeneath for attaching the semiconductor heat spreader to a substrate (63/112, called conductive lead lamination).
4. forming an electromagnetic interference shield for the channel (114, so that the magnetic field won't be able to go through the metal shield).
5. providing an additional unitary metallic plate (128/150); and  
forming the additional unitary metallic plate into a unitary auxiliary heat spreader configured for attachment on top of the semiconductor heat spreader (see figures 9-10).
6. forming attachment means for attaching the unitary auxiliary heat spreader to the semiconductor heat spreader, the attachment means being selected from tabs, locking tabs, deformable sides, side ledges, side clips, clip bosses, center clips, side arms, and a combination thereof (legs, 124/126/158/160).
7. forming the unitary metallic plate further comprises forming the unitary metallic plate in substantially a single metal forming process to also form an integral auxiliary heat spreader located on top of the panel (see figures 4, 9, 10).
8. forming the unitary metallic plate further comprises forming the unitary metallic plate in substantially a single metal forming process into a cross-sectional profile that is substantially constant in at least one horizontal direction (see figures 4, 9-10).

Noted that references (Tosaya et al. U.S. Patent No. 6,538,320, and Ommen et al. (U.S. Patent No. 5,397,917) also teaches all of the limitations as described in claims 1-10.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Nguyen whose telephone number is (571) 272-1695, or by Email via address Thanh.Nguyen@uspto.gov. The examiner can normally be reached on Monday-Thursday from 6:00AM to 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, can be reached on (571) 272-1702. The fax phone number for this Group is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956 (See **MPEP 203.08**).

A handwritten signature in black ink, appearing to read 'Thanh', with a stylized flourish extending from the end.

Thanh Nguyen  
Patent Examiner  
Patent Examining Group 2800

TTN